



## Course Outline

Credit Value: 1.0

Teachers: Mr. Winson

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Wiki space: tpshome.wikispaces.com

Extra-Help: Every morning from 9:00 to 9:55 a.m., or by appointment in the afternoon.

Textbook: ON Science 10 (2009), Dickinson et al., McGraw-Hill Ryerson

Materials: Laptop, 3-ring binder with 4 dividers/sections (for handwritten notes and handouts), lined and blank paper, pens, pencils, an eraser, a calculator, and ruler.

Prerequisite: Science, Grade 9, Academic (SNC1D) or Applied (SNC1P)

## Course Description

This course enables students to enhance their understanding of concepts in biology, chemistry, earth and space science, and physics, and of the interrelationships between science, technology, society, and the environment. Students are also given opportunities to further develop their scientific investigation skills. Students will plan and conduct investigations and develop their understanding of scientific theories related to the connections between cells and systems in animals and plants; chemical reactions, with a particular focus on acid-base reactions; forces that affect climate and climate change; and the interaction of light and matter.

## Overall Course Expectations

### Scientific Investigation Skills and Career Exploration

- Demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analysing and interpreting, and communicating);
- Identify and describe a variety of careers related to the fields of science under study, and identify scientists, including Canadians, who have made contributions to those fields.

### Biology - Tissues, Organs and Systems of Living Things

- Evaluate the importance of medical and other technological developments related to systems biology, and analyse their societal and ethical implications;
- Investigate cell division, cell specialization, organs, and systems in animals and plants, using research and inquiry skills, including various laboratory techniques
- Demonstrate an understanding of the hierarchical organization of cells, from tissues, to organs, to systems in animals and plants.

## Chemistry - Chemical Reactions

- Analyse a variety of safety and environmental issues associated with chemical reactions, including the ways in which chemical reactions can be applied to address environmental challenges;
- Investigate, through inquiry, the characteristics of chemical reactions;
- Demonstrate an understanding of the general principles of chemical reactions, and various ways to represent them.

## Earth Science - Climate Change

- Analyse some of the effects of climate change around the world, and assess the effectiveness of initiatives that attempt to address the issue of climate change;
- Investigate various natural and human factors that influence Earth's climate and climate change;
- Demonstrate an understanding of natural and human factors, including the greenhouse effect, that influence Earth's climate and contribute to climate change.

## Physics - Light and Geometric Optics

- Evaluate the effectiveness of technological devices and procedures designed to make use of light, and assess their social benefits;
- Investigate, through inquiry, the properties of light, and predict its behaviour, particularly with respect to reflection in plane and curved mirrors and refraction in converging lenses;
- Demonstrate an understanding of various characteristics and properties of light, particularly with respect to reflection in mirrors and reflection and refraction in lenses.

## Topics of Study

### Biology – Tissues, Organs and Systems of Living Things

- Plants and animals, including humans, are made of specialized cells that are organized into systems.
- Developments in medicine and medical technology can have social and ethical implications.

### Chemistry – Chemical Reactions

- Chemicals react with each other in predictable ways.
- Chemical reactions may have a negative impact on the environment, but they can also be used to address environmental challenges.

## Earth and Space Science – Climate Change

- Earth's climate is dynamic and is the result of interacting systems and processes.
- Global climate change is influenced by both natural and human factors.
- Climate change affects living things and natural systems in a variety of ways.
- People have the responsibility to assess their impact on climate change and to identify effective courses of action to reduce this impact.

## Physics – Light and Geometric Optics

- Light has characteristics and properties that can be manipulated with mirrors and lenses for a range of uses.
- Society has benefited from the development of a range of optical devices and technologies.

Unit	Time
Unit 1 – Biology: Tissues, Organs, and Systems of Living Things	26 hours
Unit 2 – Chemistry: Chemical Reactions	26 hours
Unit 3 – Earth and Space Science: Climate Change	25 hours
Unit 4 – Physics: Light and Geometric Optics	26 hours
Course Culminating Task	7 hours
Total	110 Hours

## Class Expectations

In this classroom there is no such things as a stupid question. Together we will create a classroom community where we will all feel comfortable sharing ideas and opinions without fear of ridicule. Thus the classroom expectations are that we enter the classroom each day as students willing and able to learn and who are willing and able to help others learn in the process.

## Academic Due Date Policy

All assignments and projects will have a due date. The due date is the beginning of the period for that given class. For example if a project is due for the period one class it must be submitted at 10:00 AM, if it is due for the period four class on a Wednesday, then it is due at 2:49 PM.

The due date represents the date in which the assignment/project is due. Students should submit the assignment/project to their subject teacher on the due date. If a student does not submit the task on the due date the subject teacher will contact the parents/guardian to notify them of the outstanding work that day. The subject teacher will not provide support after the due date has passed.

Late marks will be deducted on late assignments. This strategy is in keeping with the Ministry of Ontario's policy document, "Growing Success". Late projects/assignments will be assessed at a reduction of 5% per day for the first two days and 10% per day after that to a maximum of 50%. Each project will be assessed for the 100% of its original value, and late marks will be clearly stated on the final evaluation. After 6 school days, a student will receive a zero. Students are strongly encouraged to still hand in late projects for assessment and written feedback. A Saturday Club inclusion will be made within the 6 days. Projects/assignments turned into the teacher after they have been marked and returned to students, will not be awarded a grade if the project/assignment is one the teacher believes can be copied from peers (at teacher's discretion), however, written feedback on the assignment will be given. (For example: journals, reflection pieces, etc.)

### Extension Request Form

There is a procedure for students to seek relief from a due date and extend a deadline without academic penalty. In extraordinary circumstances, extensions may be granted, if an Extension Request Form is filled out by the student and signed by a parent and approved by the teacher at least one day before the due date. It is at the discretion of the teacher and the school administration whether or not to accept the Extension Request. A student may request an extension for a maximum of 2 times in each course and for no more than 3 days. After the allotted time has passed and the assignment has not been submitted then late marks will be assigned. Our policy recognizes that extenuating circumstances may legitimately prevent a student from meeting a due date. The Extension Request Form may be garnered from the principal or vice-principal.

### Illness/Doctor's Notes

If a student is absent on the due date, a doctor's note (or parental note in case of a family emergency) must be provided to the subject teacher in order for the student to submit the assignment. The assignment must be submitted upon the first day the student returns.

### Parental Communication

Parents will be contacted if the assignment/project is not submitted on the due date.

### Email receipt of Assignments

Since weekend days will be included in the late policy, the submitted time and date will be based on the time that the assignment arrives in the teacher's email inbox.